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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/644,170	08/20/2003	William M. Quinn	LOT920030011US1	8133
36380	7590	05/24/2007		
RICHARD M. GOLDMAN 371 ELAN VILLAGE LANE SUITE 208, CA 95134			EXAMINER SURVILLO, OLEG	
			ART UNIT 2142	PAPER NUMBER
			MAIL DATE 05/24/2007	*DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/644,170

Applicant(s)

QUINN ET AL.

Examiner

Oleg Survillo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-70 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-70 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on August 20, 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____                                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>08/20/03</u>  | 6) <input type="checkbox"/> Other: ____                           |

## **DETAILED ACTION**

### ***Specification***

1. The disclosure is objected to because of the following informalities:

Page 4, line 18 reads "of out invention" wherein it appears that it should read "of our invention".

Appropriate correction is required.

### ***Claim Objections***

2. Claim 24 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. In particular, claim 24 is failing to further limit claim 19 from which it depends on by repeating a limitation of claim 19 with no additional limitations present. For the purposes of art rejection claims 19 and 24 will be examined together.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1, 31, and 61 recite the limitation "the changes" (only in claims 1 and 61) in the step of invoking a wrapper and the limitation "the operations" in the step of encapsulating operations (in the step of wrapping for claim 31).

There is insufficient antecedent basis for these limitations in the claims.

Claims 4, 9, 40, and 68 recite the limitation "the Document Object Model". There is insufficient antecedent basis for this limitation in the claims.

Claims 22 and 52 recite the limitation "the document ID". There is insufficient antecedent basis for this limitation in the claims.

Claims 23 and 53 recite the limitation "the namespace". There is insufficient antecedent basis for this limitation in the claims.

5. Claims 1, 31-60 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claim 1, the step of entering the changes in the shared data structures is unclear because in the steps of opening an application, operating, and encapsulating the operations a reference was made to a single data structure. However, the step of entering the changes refers to a plurality of data structures which is inconsistent with the previous steps. For the purposes of art rejection, the step of entering the changes will be treated as entering the changes in the shared data structure.

As to claim 31, it is ambiguous because it is unclear whether the claim is directed to a program product comprising computer readable code for performing a plurality of operations or a method comprising a plurality of steps. It appears that what is claimed is a program product comprising computer readable code that comprises method steps, which is ambiguous because computer readable code is expected to comprise

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computer executable instructions for performing the desired steps. If the applicants' intention was to claim a program product comprising computer readable code, then computer readable code should comprise computer executable instructions for performing the steps rather than method steps as presently claimed.

Claims 32-60 incorporate the limitations of claim 31 and therefore are rejected for the same reasons. For the art rejection, claims 31-38, 40-49, 51-53, and 57 will be examined as claiming method steps as presently claimed.

As to claim 50, it is unclear what the instructions are performing. As claimed, "assigning each node has a unique user ID" is ambiguous because it is claiming that each node has a unique user ID, which makes the instructions for assigning having no purpose. For the purposes of art rejection, claim 50 will be interpreted as containing instructions for assigning each node a unique user ID.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-11, 13-14, 26-27, 31-41, 43-44, 56-57, and 61-69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shuang et al. (2004/0133639) in view of Elza et al. (2004/0230896).

As to claims 1, 31, and 61, Shuang shows a method and a system of multiple workstations (110, 120, 130) Fig. 1 collaborating on a shared data structure stored on a server (140), the server being configured and controlled for multiple user access to and manipulation of shared data structures comprising server (140) being a collaboration server (paragraph [0058], line 10). Shuang shows opening an application to access or create the shared data structure comprising executing a web browser (150A) on the collaboration client (110) wherein the web browser accesses web pages containing XML documents (paragraph [0059]), connecting to the server comprising interconnecting collaboration clients and collaboration server through Internet (160) (paragraph [0058] lines 1-10, Fig. 1), operating on the shared data structure on a remote workstation comprising having the end user pressing a key, clicking a mouse, touching a touch screen, clicking on a tablet from the collaboration computer (110) (paragraph [0069] lines 4-9), invoking a wrapper for the changes to the shared data structure comprising a Transfer Data Structure (TDS) (300) (paragraph [0060]; [0072] lines 7-9), encapsulating the operations on the shared data structure into one or more messages comprising event type (310), locators (320-340), and event data (350) (Fig. 3). Shuang also shows sending the messages to the server (paragraph [0063], lines 5-8), and reflecting the changes to the data structure to other client workstations connected to the server comprising using TDS (300) to synchronize collaborating clients (110), (120), and (130) (paragraph [0092] lines 1-6).

Shuang does not explicitly show that the changes in the shared data structure are being entering on the server.

Elza shows entering the changes in the shared data structure on the server comprising propagating mutations to the server for application to server's document (paragraph [0032] lines 17-29).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method and the system of Shuang by entering the changes in the shared data structure on the server in order to maintain an updated version of a master version of the document (paragraph [0032] lines 24-29 in Elza).

As to claims 2, 32, and 62, Shuang shows that the method is carried in real time and the system operates in real time (paragraph [0027], line 1).

As to claims 3, 35, and 65, Shuang shows that the shared data structure is chosen from the group of conference white boards comprising collaborative drawing application program collaboration (paragraph [0029], lines 7-10).

As to claims 4 and 40, Shuang in view of Elza shows that the server is configured and controlled for multiple user access to and manipulation of shared data structures in accordance with the Document Object Model (paragraph [0032] lines 3-4; [0036] lines 1-9, both in Elza).

It would have been obvious to one of ordinary skill in the art at the time of the rejection to modify the method of Shuang by having the server being configured and controlled for multiple user access to and manipulation of shared data structures in accordance with the Document Object Model in order to enable collaborative authoring of hierarchical documents utilizing a Document Object Model (paragraph [0040] lines 1-3 in Shuang; paragraph [0032] lines 1-9 in Elza).

As to claims 5 and 36, Shuang in view of Elza shows connecting to the server through at least one API (paragraph [0082] lines 24-28; [0083] lines 12-14 both in Elza).

It would have been obvious to one of ordinary skill in the art at the time of the rejection to modify the method of Shuang by connecting to the server through at least one API in order to carry out actions performed by a client.

As to claims 6, 37, and 66, Shuang in view of Elza shows connecting to the server (paragraph [0058] lines 1-10, Fig. 1 in Shuang) (Fig. 3 paragraph [0082] in Elza) and connecting to a namespace on the server associated to the shared data structure comprising generating globally unique identities for a node and persisting the identities with the document using node attributes of a DOM namespace (paragraph [0050] in Elza).

It would have been obvious to one of ordinary skill in the art at the time of the rejection to modify the method and the system of Shuang by connecting to a namespace on the server associated to the shared data structure in order to control access to documents (paragraph [0036] lines 14-16; [0050] in Elza).

As to claims 7 and 38, Shuang in view of Elza shows that the server monitors operations on the shared data structure on the workstations in real time comprising receiving changes to the shared data structure from the client that performed changes at the server in a synchronous manner therefore enabling the server to register operations on performed on the shared data structure on the client workstations in real time (paragraph [0063] and [0072] in Shuang) and, alternatively, (paragraph [0042] lines 9-13; paragraph [0076] lines 1-5 in Elza).



As to claims 8, 39, and 67, Shuang in view of Elza shows detecting a change in a data structure on a client workstation comprising generating event (265) in response to a change in a data structure on a client workstation (paragraphs [0070-0072] in Shuang) and invoking a wrapper, encoding the operation comprising creating a Transfer Data Structure (TDS) (300) encoding changes (paragraph [0060]; [0072] lines 7-9, Fig. 3 in Shuang).

It is inherent that there are computer readable instructions for performing the steps of detecting a change and invoking a container.

As to claims 9, 33-34, 63-64, and 68, Shuang in view of Elza shows manipulating and modeling an XML mark-up language file in accordance with the Document Object Model (paragraph [0040] lines 1-3, [0059] lines 10-13, [0075] in Shuang) and, alternatively, (paragraphs [0003-0006] and [0083] in Elza).

As to claim 10, Shuang in view of Elza shows that the data structure complies with an XML data model (Fig. 2B in Shuang) and, alternatively, (paragraphs [0003]-[0006] and Fig.1 illustrating the main structure of an XML document in Elza).

As to claims 11, 41, and 69, Shuang in view of Elza shows synchronizing data structures to individual client workstations (paragraph [0092] lines 1-6 in Shuang) and, alternatively, (paragraph [0032] lines 24-29, [0091] in Elza).

As to claims 13 and 43, Shuang in view of Elza shows applying a plurality of document changes as one atomic unit comprising allowing a DDOM client to use DDOM fragments to assemble a number of nodes and mutation operations before forwarding the fragments and operations to the server (paragraph [0077] in Elza).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method of Shuang by applying a plurality of document changes as one atomic unit in order to minimize data traffic when the connection speed between the client and its server is slow (paragraph [0040] in Elza).

As to claims 14 and 44, Shuang in view of Elza shows wrapping underlying DOM applications in a wrapper as nodes comprising having TDS (300) containing information such as a element locator (340) (Fig. 3 in Shuang) which shows optional mutant web page support and wherein the element locator contains an element tagName and index (341) describing the respective element (paragraphs [0089-0090] in Shuang) wherein the respective element is one of the elements (210-240) Fig. 2B of the XML document implemented as a hierarchical data structure in DOM model (paragraph [0083] in Shuang).

Shuang does not explicitly show that elements (210-240) Fig. 2B are the nodes of the XML document.

Elza shows that the elements that make up an XML tree are the nodes comprising "childNodes" (paragraph [0005], Fig. 1 in Elza).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method of Shuang by calling elements (210-240) of Fig. 2B as childNodes or nodes of XML document tree view in order to comply with DOM specification.

As to claims 26 and 56, Shuang in view of Elza shows detecting a change by an application to the DOM model comprising generating event (265) in response to a

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change in a data structure on a client workstation (paragraphs [0070-0072] in Shuang) wherein the respective web browser (150) identifies the selected browser window (250) and the document (205) (paragraph [0070]).

It is inherent that there are instructions for detecting a change.

As to claims 27 and 57, Shuang in view of Elza shows that the changes invoke a wrapper comprising creating a Transfer Data Structure (TDS) (300) in response to event (265) indicating changes to the document (paragraph [0072] lines 7-9, Fig. 3 in Shuang).

8. Claims 12, 15-25, 28-30, 42, 45-55, 58-60, and 70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shuang et al. (2004/0133639) in view of Elza et al. (2004/0230896) and in further view of Document Object Model (DOM) Level 2 Core Specification.

As to claims 12, 42, and 70, Shuang in view of Elza shows all the elements except for creating DOM objects from a wrapped DOMImplementation application:

DOM Level 2 Core Specification shows creating DOM objects comprising XML document object from a wrapped DOMImplementation application (page 22 under the heading Interface DOMImplementation).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method of Shuang in view of Elza by creating DOM objects comprising XML document object from a wrapped DOMImplementation application in

order to create an XML document object of the specified type with its document element according to the DOM Level 2 Core Specification (page 22).

As to claims 15 and 45, Shuang in view of Elza shows all the elements expect that each node is an object in the DOM model.

DOM Level 2 Core Specification shows that each node is an object in the DOM model (page 11, lines 4-5).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method of Shuang in view of Elza by having each node being an object in the DOM model in order to utilize the logical structure of documents provided by DOM and the way a document is accessed and manipulated according to DOM specification (page 9 of the DOM Level 2 Core Specification).

As to claims 16 and 46, Shuang shows that sub-nodes inherit from the nodes comprising sub-elements, which are childNodes of element (220) (paragraph [0088]) Fig. 2B.

As to claims 17 and 47, Shuang shows that sub-nodes are chosen from the group consisting of elements of a document comprising sub-nodes (221) and (222) chosen from the group of elements (210) – (240) of a document (205) Fig. 2B.

As to claims 18 and 48, Shuang in view of Elza shows that each node in a DOM file on a local workstation is associated to an object in a shared node on the server comprising each DDOM client component (308) of a client having a DDOM document that is a copy of the server's master version of a document wherein the master version

of the document and the clients' copies are represented as tree structures having nodes (paragraph [0082] lines 18-24 in Elza).

As to claims 19, 24, 49, and 54, Shuang in view of Elza shows that a shared node wraps a local node comprising shared node on the server incorporating all the changes made to a local node on a client workstation (paragraph [0134] in Elza).

It is inherent that there are instructions for causing a shared node to wrap a local node.

As to claims 20 and 50, Shuang in view of Elza shows that each node has a unique user ID (paragraphs [0048] and [0050] in Elza).

It is inherent that there are instructions for assigning each node a unique user ID.

As to claims 21 and 51, Shuang in view of Elza shows that the shared node is aware of parent node ID comprising assigning node UUIDs wherein nodes are identified by attributes set in their parent node (paragraphs [0100-0101] in Elza).

As to claims 22 and 52, Shuang in view of Elza shows that the shared node is aware of the document ID comprising mutation requests (418) to the server (407) containing document ID (paragraph [0086] lines 1-15 in Elza).

It is inherent that the shared node on the server has to be aware of the document ID provided in the mutation request in order to correctly match operation on a node with the document containing the node.

As to claims 23 and 53, Shuang in view of Elza shows that the shared node is aware of the namespace comprising having node identity persisted with the document using node attributes of a DDOM namespace (paragraph [0050] in Elza).

As to claims 25 and 55, Shuang in view of Elza shows that the local node uses the shared node as a delegate for operations comprising sending mutation requests from a local node to a shared node in order to subsequently broadcast operations to other clients connected to the server (paragraph [0134] in Elza).

It is inherent that there are instructions for causing a local node to use the shared node as a delegate for operations.

As to claims 28 and 58, Shuang shows detecting a change on a local DOM model, and encoding the detected change comprising web browser (150) identifying the selected browser window (250) and the document (205) in response to detected event (265) that occurred on the document (205) (paragraphs [0070-0072]) and encoding the detected change comprising creating a Transfer Data Structure (TDS) (300) encoding changes (paragraph [0060]; [0072] lines 7-9, Fig. 3).

It is inherent that there are instructions for detecting a change.

As to claims 29 and 59, Shuang in view of Elza shows encoding the detected change on the client comprising creating a Transfer Data Structure (TDS) (300) encoding changes (paragraph [0060]; [0072] lines 7-9, Fig. 3 in Shuang) wherein the encoding is performed on the client (Fig. 4 (500) in Shuang), transmitting the detected change to the server (Fig. 4 (430) in Shuang) wherein Client 1 sends TDS to the server (paragraph [0105] lines 16-18 in Shuang), and implementing the change on the server (paragraph [0032] lines 17-29 in Elza).

It is inherent that there are instructions for encoding the detected change, transmitting the detected change, and implementing the change on the server.

As to claims 30 and 60, Shuang in view of Elza shows synchronously applying the change on the server (paragraph [0091] lines 1-9 in Elza) wherein the changes on the server are applied synchronously (paragraph [0042] lines 9-13 in Elza) and reflecting the change to the server (paragraph [0092] lines 1-6 in Shuang and, alternatively, paragraph [0091] lines 10-18 in Elza).

It is inherent that there are instructions for applying the change on the server, and reflecting the change to the clients.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Oleg Survillo whose telephone number is 571-272-9691. The examiner can normally be reached on M-Th 7:30am - 5:00pm; F 7:30am - 4:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Caldwell can be reached on 571-272-3868. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Examiner: Oleg Survillo

Date: May 16, 2007

Phone: 571-272-9691

A handwritten signature in black ink, appearing to read "Andrew Caldwell", with a stylized, cursive script.

ANDREW CALDWELL  
SUPERVISORY PATENT EXAMINER